

**ON-LINE BILLING SYSTEM  
AND METHOD OF THE SAME**

**DESCRIPTION**

**BACKGROUND OF THE INVENTION**

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*Field of the Invention*

The present invention relates to a method for the suppliers in the supply chain to integrate the electronic billing and payment process, in particular to the on-line billing process applied by suppliers.

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*Background Description*

Traditionally, the business transaction procedure is the sales representative or the procurement team places the orders to the suppliers for raw materials, parts or finished goods. Ordering might be upon the sales forecast or the volume summed up from the purchase orders. Thus, the suppliers receive the orders then check the stock. If the stock and the production can't satisfy the demand, the suppliers have to further deal with the upstream suppliers. This demand-supply relationship is called Supply Chain. Now there are some applications such as ORACLE or

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AGILE for the supply chain management of purchasing, shipment, parts and materials and it's called ERP (Enterprise Resource Planning).

5       What ERP covers is flexible; it can be wide as including human resource, sales, risk analysis, finance, performance evaluation and so on or narrow as only IQC (Incoming Quality Control). However, in between the application of supply chain and the control of internal approval process, what ERP can  
10       do is not real-time and automatic enough to meet the on-line billing because it requires excessive manual work to watch for the timing of billing and payment or to control the receipt of goods and the release of payment. Especially when the profit is so tied  
15       and the market price drops so fast, to well control the payment can definitely avoid the unnecessary cash outflow and the loss of interest. Moreover, it's going to be an ultimate support to build up the business advantage if the on-line billing system and  
20       the accurate real-time payment process can displace the excessive manual work.

      The traditional electronic billing process is typically as the supplier delivers goods. The inventory keeper and the component quality control  
25       inspecting goods, then rejection applied if the quality check is failed, or stock-in if quality passed. The keeper will submit the supplier the receiving ticket or the related paper for billing and notify the financial department. After the  
30       reception of the receiving ticket, the supplier

starts the billing process, such as generating check sheet, printing through Web browsers, checking the purchasing allowance, issuing uniform invoice for tax filing, and then processing payment.

5           Referring Figure 1, which shows the best developed electronic billing system by the inventors, the concept of this aforementioned operation can be more apparent. First, the center plant (headquarter or subsidiary plant) place the  
10           purchase orders or forecast to the suppliers. The suppliers deliver goods to the center plant. Then the center plant stocks in the goods and then submits the receiving ticket. Upon each shipment, the check sheet is consolidated and generated.  
15           Meanwhile, purchasing allowance is processed at Web interface. If ERP is capable of covering this procedure, all the information is submitted to the related directors for approval in ERP. Following the approval, the uniform invoice is issued for  
20           on-line tax filing. Finally, the banking institution releases the payment to the suppliers on the settled due date.

          As Figure 1, such process incorporates some ERP techniques. However, the major drawback contains  
25           excessive manual works. For instance, when the check sheet is duplicated and the content is not matched with what on the origin. It must be particularly taken care to confirm price and quantity, and it requires manpower to communicate  
30           over phone or by meetings. Besides, if the payment

is different from the amount the statement of  
account, it requires the manual work to review all  
the associated documents because the discrepancy may  
be caused by the different timing of shipping and  
5 billing. No matter what the reason and final  
results are, the due payment has been delayed and  
the insufficient amount can't be possibly detected  
at the moment when the check sheet is presented. In  
case it's involved with import-export issues and  
10 results in the various exchange rates, more  
complicated communication to clear up the issues  
will cause the further delay, lots manual works,  
numerous communication and conferences, and the  
greater loss. Therefore, to develop a real-time  
15 on-line billing system is able to overcome the above  
drawbacks.

#### SUMMARY OF THE INVENTION

20 It is therefore an object of the present  
invention to provide suppliers a real-time on-line  
method which integrates the electronic billing and  
payment process, containing the advantages as  
solving the accounts mistakes, avoiding the  
25 transaction disputes, offering the paperless  
environment, the real-time data and the extreme  
transparency of information.

To approach the above objects, the procedure of  
the present invention is briefly as follows. The  
30 supplier deliver goods, the inventory keeper and

quality control inspect the quality and stock in the goods, the check sheet is issued at WEB and proceed to inquire. If the check sheet is errorless, then confirm the check sheet and issue the statement of account and the invoice. If the check sheet is errorless, then generate emails to notify the buyers and key-in the related data onto the statement of account. Thus, the supplier's billing information and the data in ERP of the center plant can be crosschecked and suffice the advantage of the present invention.

Accordingly, the supplier's on-line billing system consists of the following modules: forward the file of check sheet details to HUBWEB interface; generate the file of check sheet at HUBWEB for the procedure as inquire check sheet, mark dispute of check sheet, confirm dispute of check sheet and delete dispute of check sheet; issue statement of account; inquire, delete, print the corresponding statement of account and inquire invoice; restore statement of account back to ERP; restore confirmed dispute of check sheet by batch to HUBWEB interface; generate the file of the statement of account details; generate the invoice file.

It is another object of the present invention to provide the module to generate the file of check sheet, wherein the system will automatically notify the relevant personnel via emails during the process to mark, confirm and delete dispute of check sheet.

According to the yet aspect of the present

invention, there is the module to inquire, delete, print statement of account and the inquire invoice, which consists of the inquiry operation about statement of account, payment, return goods allowance and invoice file.

According to yet another aspect of the present invention, there is the module to restore confirmed dispute of check sheet by batch to HUBWEB interface, which is to consolidate the confirmed dispute of check sheet into the check sheet file at HUBWEB to ensure its accuracy.

Accordingly, all the data in ERP and HUBWEB is kept the most updated and real-time accurate when the data is being updated and deleted.

In order to approach the above objects, the present invention yet provides suppliers a solution of on-line billing, which includes the steps of: login step: to sing in the on-line billing system; examine step: to check the authority of users; verify check sheet step: to make sure the accuracy of the check sheet; invoice step: issue the invoice; and print the statement of account step.

Accordingly, there is an examine step to assure the login user is authorized to sign in the on-line billing system. A login user who is not authorized is allowed to immediately apply a user account; however, the user must go through the application process to be authorized. There is another step to mark the dispute of check sheet when the data on check sheet has been rejected in verify check sheet

step.

According to the above objects, there is another dispatch email step to notify the relevant personnel of the follow-up notes on dispute of check  
5 sheet in mark dispute of check sheet. The data need to be verified can be currency. Furthermore, the data need to be verified is the total amount or the goods quantity.

#### BRIEF DESCRIPTION OF THE DRAWINGS

10 The foregoing and other objects, aspects and advantages will be better understood from the following detailed description of a preferred embodiment of the invention with reference to the drawings, in which:

15 Figure 1 is the flowchart of a best developed electronic billing system by the inventors;

Figures 2A, 2B and 2C shows separated flowcharts of ERP system and HUBWEB data flow of the present invention;

20 Figure 3 is the flowchart of on-line billing process of the present invention;

Figure 4 is the flowchart to process the dispute of check sheet in the on-line billing system of the present invention;

25 Figure 5 is the screen shot of the page to login HUBWEB of the present invention;

Figure 6 is the screen shot of clicking inquire

check sheet;

Figure 7 is the screen shot of inquiring check sheet and its outcome;

5      Figure 8 is the details of inquiry outcome of check sheet;

Figure 9 is the screen shot of marking dispute of check sheet in step 320;

Figure 10 is the screen shot of confirming dispute of check sheet;

10      Figure 11 is the record of dispute of check sheet notifying and automatic email notifying;

Figure 12 is the screen shot of issuing statement of account in step 321;

15      Figure 13 is the screen shot of issuing statement of account;

Figure 14 is the screen shot of payment status/delete/print;

Figure 15 is the screen shot of request to print statement of account in step 324;

20      Figure 16 is the screen shot of function of invoice issue/complete/delete;

Figure 17 is the screen shot for keying in term and condition of invoice issue/complete/delete following the previous selection;

25      Figure 18 is the report of inquiry of the statement of account and payment record status in step 325; and

Figure 19 is the print of the invoice details.

#### **DETAILED DESCRIPTION OF A PREFERRED**



**EMBODIMENT OF THE INVENTION**

Please refer to Figure 3, which shows the function block diagram of the present invention. Figure 3 demonstrates the electrical system with the driving module.

The procedure of the present invention is briefly as followings. Firstly, the supplier delivers goods. The inventory keeper and quality control team will inspect the quality of goods. Once goods are accepted, at Web the check sheet is therefore issued and proceeded with the inquiry. If the check sheet is errorless, then confirm the check sheet and issue the statement of account and issue the invoice. If the check sheet is errorless, the system dispatches electrical mails (emails) to notify the buyers and the related data will be processed onto the statement of account.

Please refer to Figures 2A, 2B and 2C, which are continuous flowcharts of the present invention. At first in the Block 21, the ERP system forwards the file of check details to HUBWEB. In Block 22, the check file is generated at HUBWEB for the procedure as inquiring check sheet and marking, confirming and deleting dispute of check sheet. Meanwhile, in the process to mark, confirm and delete dispute of check sheet, the system will dispatch emails to notify the relevant personnel. Once the check sheet at HUBWEB has been confirmed errorless, the process will move to Block 23,

wherein the file of statement of account is generated and also issue the statement of account. Afterwards, Block 24 is to inquire, delete, print statement of account and inquire invoice. When  
5 activating the function to issue the invoice, the process is forward to Block 29, wherein the system will generate the invoice file and the uniform invoice file as well for on-line tax filing. In Block 23, the statement of account, besides being  
10 able to be inquired and printed in Block 24, will be restored back to ERP and start the corresponding procedure and store the record. In addition, in Block 22, if the check sheet is marked with dispute, it will be sent back to ERP and generate the batch  
15 file of dispute of check sheet . As Block 26, this batch file of dispute of check sheet is also going to be restored to HUBWEB as shown in Block 23, wherein the dispute information will be consolidated into the file of statement of account. In Block 25,  
20 the file of statement of account from HUBWEB is further forward to Block 28, wherein the file of statement of account is generated, which is also for usage of searching; the index can be the supplier code or the number of check sheet.

25 Figures 2A, 2B and 2C present the data flow between ERP and HUBWEB and the following Figures 3 and 4 illustrate the flow how the supplier manipulate HUBWEB. At first, the supplier has to login HUBWEB (Step 311); next the user account is  
30 confirmed in Step 312; if the user account is

invalid then go to Step 313 where to apply the user  
account; if the user account is valid or the  
application of user account is completed in Step  
314, then go to the main screen of login HUBWEB  
5 (Step 316, the exemplary implementation of the  
present invention is C-Plan and E-Billing system at  
Mitac International Corp.); next in Step 317, verify  
if the login user is in the associated supplier's  
sales or financial departments, if not then go to  
10 Step 315 to notify help desk, if yes then go to Step  
318, where to offer the function to inquire check  
sheet and verify the related details as well, the  
practice of the present invention is to confirm the  
currency as shown in Step 319, it also can be the  
15 confirmed date of check sheet or the date of  
purchase; if the currency is detected error, go to  
Step 320 where to mark the dispute of check sheet  
then go to Block diagram A which will be illustrated  
in Figure 4; if the currency is correct, go to Step  
20 321 where to proceed the procedure to issue the  
statement of account; afterwards, the invoice is  
issued in Step 322 or go to Step 323 where to  
complete the procedure to issue the invoice;  
subsequently in Step 324 the invoice is printed as  
25 one of the billing documents; at the same time, the  
file of statement of account is generated in Block  
28 of Figure 2C for purpose to inquire statement of  
account (Step 325); the statement of account and the  
invoice send to the supplier's financial dept (Step  
30 326).

5 In regard to mark dispute of check sheet (as A  
in Figure 3), when check sheet is marked with  
disputes in Step 411, wherein HUBWEB will initiate  
emails to the relevant personnel of supplier; in  
Step 412, when the emails is failed on delivery or  
no response from addressee, the email about the  
dispute of check sheet will be printed out and be  
sent to the center plant's procurement team;  
following the printout is successfully sent to the  
center plant's procurement team, the procurement  
team should confirm the receipt and follow up the  
issues such as unit price error, inaccurate quantity  
or wrong currency exchange rate; furthermore, based  
on the data file, related report or documents  
created, the dispute is cleared up (Step 417, 418  
and 419).

Figure 5 is the superior exemplary  
implementation of the present invention as the  
screen of login HUBWEB in Step 311 in Figure 3.  
Figure 6 is the screen to click inquire check sheet  
in Step 318 in Figure 3. Figure 7 is the screen to  
inquire check sheet and its outcome. Figure 8 is  
the details of inquiry outcome of check sheet.  
Figure 9 is the screen to click mark dispute of  
check sheet in step 320 in Figure 3. Figure 10 is  
the screen to confirm dispute of check sheet (same  
as Block 26 in Figure 2A). Figure 11 is the record  
of dispute of check sheet notifying and automatic  
email notifying (Step 412, 413). Figure 12 is the  
screen to click issue statement of account in step

321 in Figure 3. Figure 13 is the screen to issue statement of account. Figure 14 is the screen of payment status/delete/print (same as Block 24 in Figure 2B). Figure 15 is the screen to print  
5 statement of account in step 324. Figure 16 is the screen to click invoice issue/complete/delete. Figure 17 is the screen to key in term and condition of invoice issue/complete/delete following the previous selection. Figure 18 is the report of  
10 inquiry of the statement of account and payment record status in step 325. Figure 19 is the screen to print the invoice details. Accordingly, viewing Figure 5 to Figure 9 is able to further comprehend the system function and the flow of the present  
15 invention.

Therefore, the advantages of the present invention is addressed as: the supplier examine the billing status in advance, the statement of account and the invoice can be immediately issued if  
20 errorless, so it can avoid the careless mistakes; moreover, knowing the billing process is on the base of the printing of statement of account, when the supply is complex like numerous items and high volume, it results in the considerable billing  
25 documents, whose examination is abysmally manpower-consuming and printout waste of paper and consumptive printing materials; due to the different timing of buyer's releasing the purchase order and the receipt of supplier, the exchange rate causes  
30 the problem and the supplier can't successfully

complete the billing process, the on-line billing system of the present invention is able to mitigate the disputes for both sides; additionally, when the supplier key in the information of statement of account, the system generates the batch file and transfer the data at HUBWEB to ERP, it can reduce the loading of account personnel; no matter the management of dispute marking or tracking the payment, the present invention can go through and combine with the process of quality control to make the payment information comprehensive.

In general, the procedure of the present invention is briefly as follows. The supplier deliver goods, the inventory keeper and quality control inspect the quality and stock in the goods, the check sheet is issued at WEB and proceed to inquire. If the check sheet is errorless, then confirm the check sheet and issue the statement of account and the invoice. If the check sheet is errorless, then generate emails to notify the buyers and key-in the related data onto the statement of account. Thus, the supplier's billing information and the data in ERP of the center plant can be crosschecked and suffice the advantage of the present invention.

Although preferred embodiments of the present invention have been described in the forgoing description and illustrated in the accompanying drawings, it will be understood that the invention

is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications, and substituting of parts and elements without departing from the spirit and scope of the invention. Accordingly, the present invention is intended to encompass such rearrangements, modifications, and substitutions of parts and elements as fall within the scope of the appended claims.